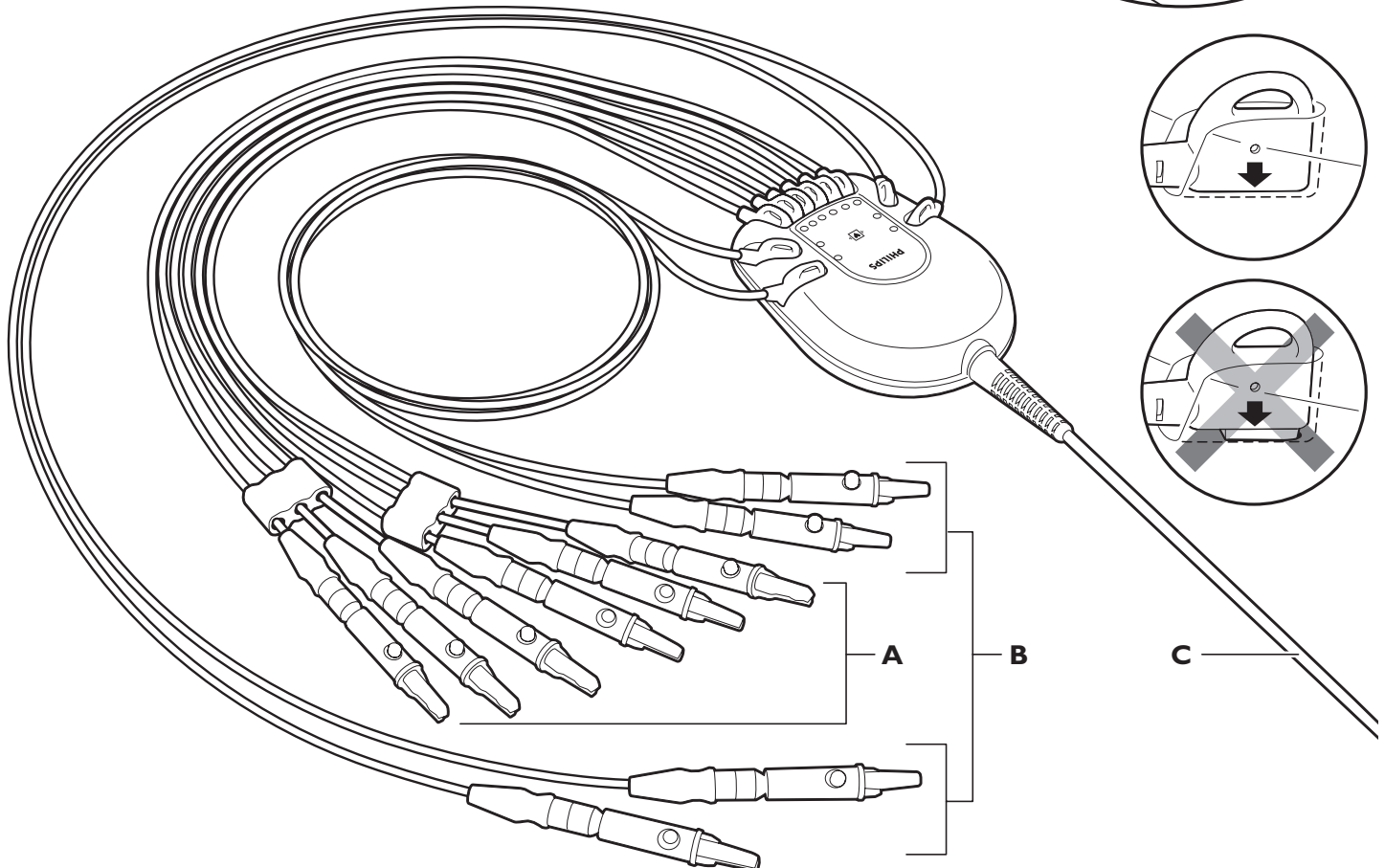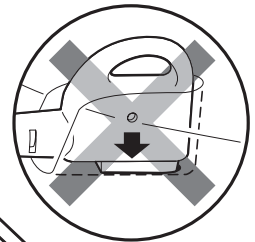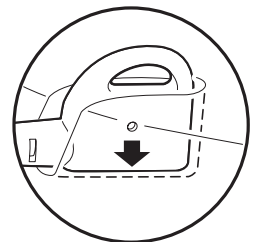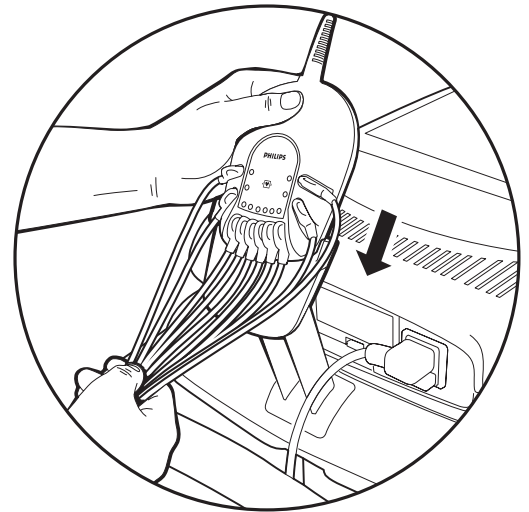# PHILIPS

The Patient Interface Module (PIM)

A Chest lead wires

B Limb lead wires

C Patient data cable
(connects to PIM connector
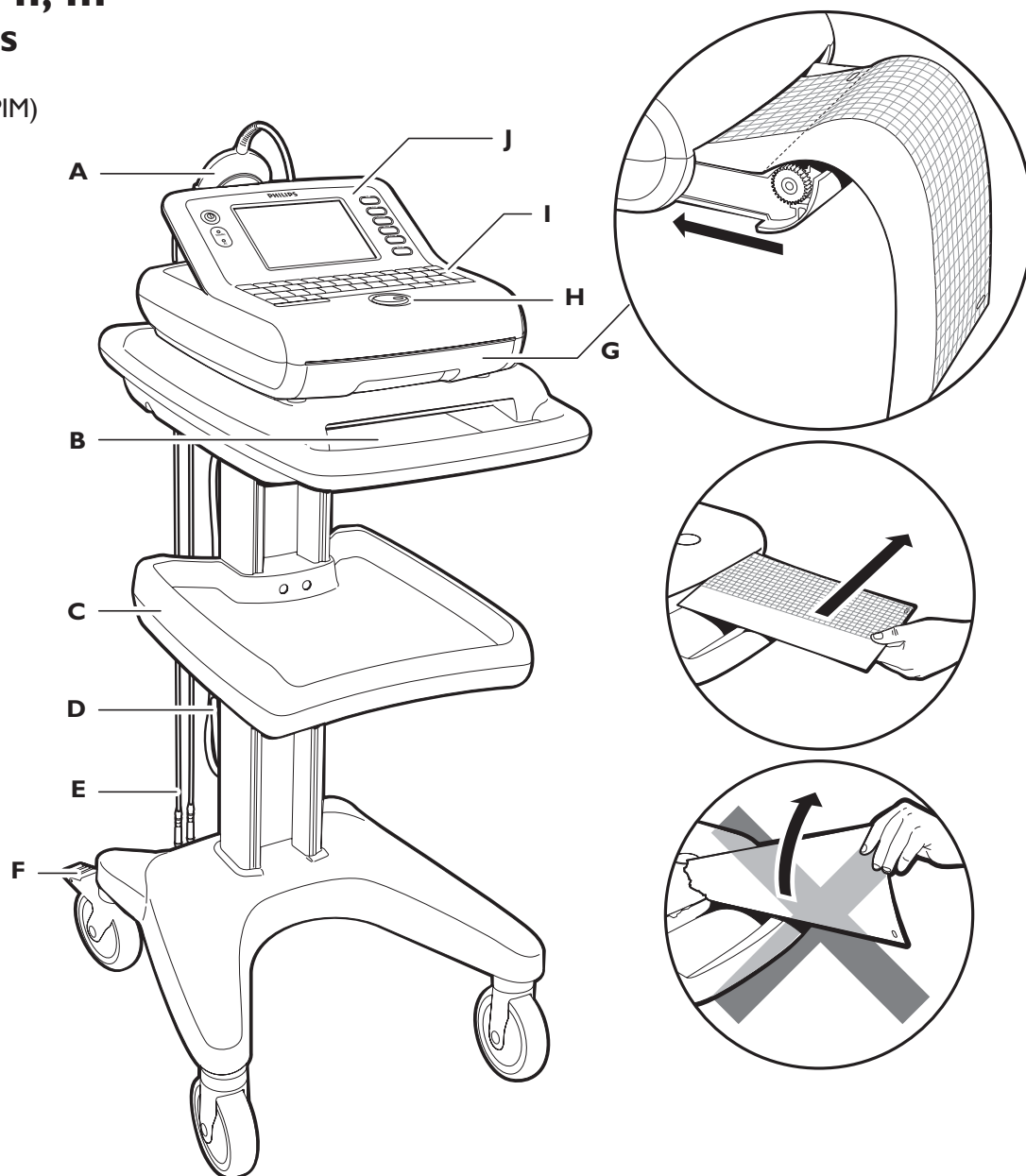on back of cardiograph)

A   B   C

PageWriter Trim I, II, III

QUICK HELP CARD

PageWriter Trim II, III Cardiograph Parts

A Patient Interface Module (PIM) & holder

B Report storage

C Storage shelf

D AC power cord

E Lead wires

F Wheel brake

G Printer/paper drawer

H Trim Knob

I Keyboard

J Control panel

PageWriter Trim II, III Rear Panel

A Serial port (not supported)

B Barcode Reader or Magnetic Card Reader connector

C SmartCard Reader connector (USB)

D PIM connector

E Battery door

F Fuse compartment

G Equipotential post

H AC power connector

I PC Card slot

J PC Card eject button
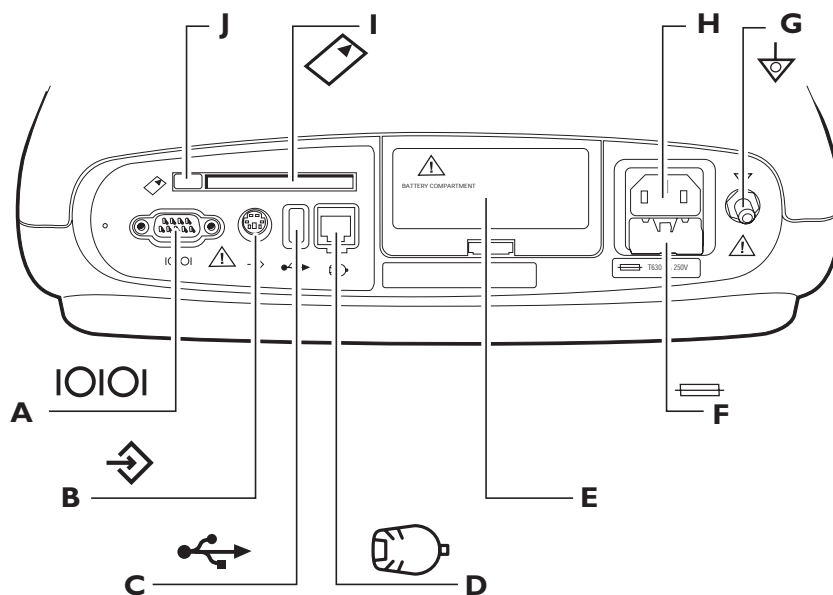
PageWriter Trim II, III Control Panel

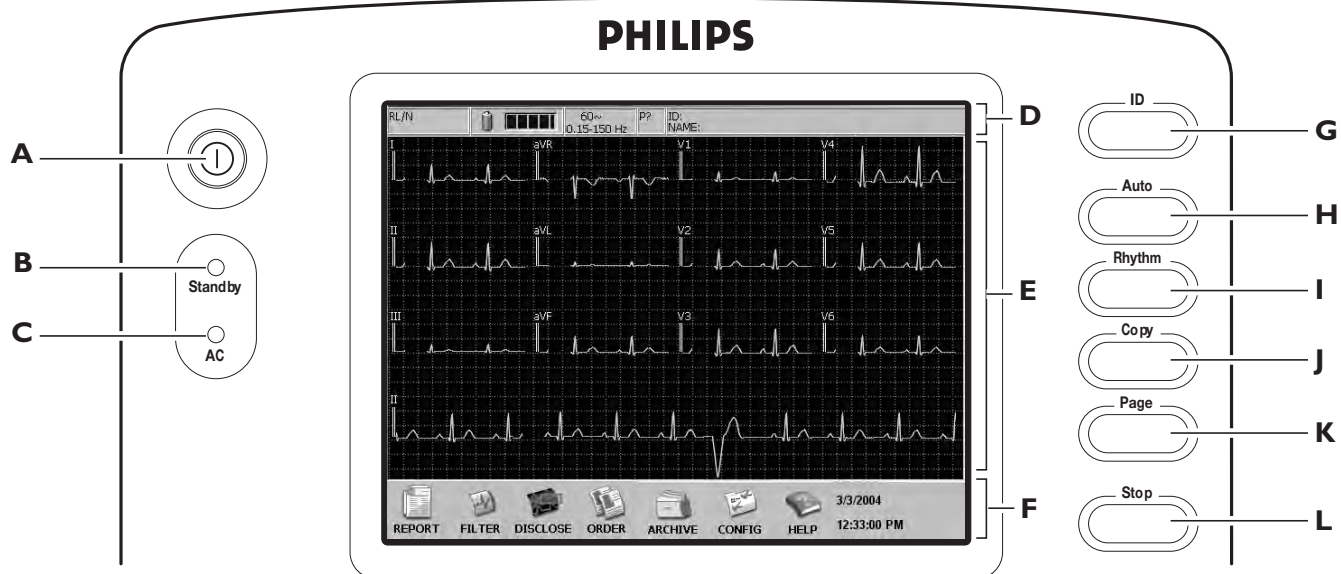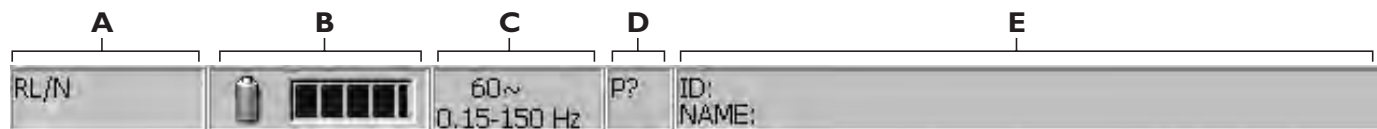|	Label	Description
A	On/Standby button	▪ Push to turn on the cardiograph or to put cardiograph into Standby (power save) ▪ Push and hold for 3 seconds, then release to shut down the cardiograph for extended periods of inactivity
B	Standby indicator	When lit, the cardiograph is in Standby (power save) and the screen is black
C	Power indicator	When lit, the cardiograph is plugged into AC power
D	Status Bar	Displays current cardiograph settings including: Leads off, battery level, filters, pacing detection settings, and Patient name and ID
E	Waveform Display	Displays real-time waveforms (waveforms are color-coded by signal quality on the PageWriter Trim III)
F	Command Toolbar	Buttons contain major cardiograph functions, with the current date and time at right
G	ID button	Press button to enter Patient ID information
H	Auto button	Press button to print out an Auto 12-lead report
I	Rhythm button	Press button to print out a continuous Rhythm report (up to 12 leads) until the Stop button (**L**) is pressed.
J	Copy button	Press button to print out a copy of the last recorded Auto 12-lead report
K	Page button	Press button to advance the printer paper to the beginning of the next page
L	Stop button	Press button to stop the printing of a Rhythm report or any other printing function

PageWriter Trim II, III Status Bar

	Label	Description
A	Leads Off Indicator	Displays the name of any loose or disconnected leads or electrodes (see chart)
B	Battery Level Indicator	▪ Displays the current battery level: ▪▪▪▪ (full charge), ▪▪ (half charge), ▪ (low charge, batteries will require charging, cardiograph "beeps" until unit is plugged into AC power) ▪ Battery level icon ▪▪▪▪ flashes and bolt icon appears (🔋) when batteries are charging
C	Filter Settings	▪ Displays the filter settings for the current patient session ▪ **F** (Artifact filter) and **W** (Baseline Wander filter) appear when these optional and configurable filters are enabled
D	Pacing Detection Settings	▪ Displays the Pacing Detection Setting: **P?** - Not Known if Paced (recommended for most ECGs), **P** - Paced (pacemaker pulse detection at higher sensitivity), **PM** - Paced Magnet (use if ECG acquired with pacemaker magnet in place), No code - Non-paced (pulse detection is off)
E	Patient ID and Name	Displays the patient name and ID number

PageWriter Trim II, III Command Toolbar

	Label	Select this button to...
A	REPORT	▪ Change Auto 12-lead printed report settings ▪ Change pacing detection settings ▪ Change Rhythm Leads ▪ Change Disclose Lead
B	FILTER	Turn on or turn off optional filters (Baseline Wander, Artifact)
C	DISCLOSE	Print a report of one minute of continuous waveform data for one selected lead
D	ORDER	Enter an Order, edit an Order, or delete Orders using the cardiograph keyboard
E	ARCHIVE	▪ Review, edit, and print saved 12-lead reports ▪ Transfer 12-lead reports to a TraceMaster ECG Management System (version A.04.02 or higher)
F	CONFIG	▪ Change configured settings on the cardiograph ▪ Edit report profiles or create new report profiles ▪ Save cardiograph settings to a PC Card in case of system failure, or to copy configured settings to multiple cardiographs
G	HELP	Get Help with using the cardiograph

Color-coded Waveforms
(on the PageWriter Trim III display)

Waveform Color	Indicates	Possible Causes
Green waveform	Good connection	
Yellow waveform	Moderate noise level, artifact, electrode interference, or a poor electrode connection	▪ Dry gel on electrode ▪ Inadequate patient preparation ▪ Electrical interference from another device ▪ Moderate patient movement, tense patient
Orange waveform	▪ Severe artifact, electrical interference, or a poor electrode connection	▪ Electrical interference from another device ▪ Patient tremors, shivering patient, inadequate patient preparation ▪ Very poor electrode contact, dry electrodes
Red dotted line	▪ Loose electrode connection ▪ ECG waveform data that cannot be analyzed	▪ Inoperative electrode, electrode that has fallen off of the patient ▪ Defibrillation has been performed too recently to take ECG measurements ▪ Other cause that renders waveform data useless

PageWriter Trim II, III Navigation

Navigating on the Cardiograph

1. Turn the Trim Knob to scroll through buttons or other selections.

2. Press the Trim Knob to select a button or other selection.

3. Press the Esc key on keyboard to exit any screen.

Esc

Report Settings Screen

REPORT

Tabs

Report settings

AUTO(A) | RHYTHM(R) | DISCLOSE(D)

Format:	3x4
3x4 1R Leads:	I
3x4 3R Leads:	II,aVF,V5
Speed (mm/s):	25
Size (mm/mV):	10
Size (V Leads):	Full Scale

Pacer Detect
- ⦿ Not known if Paced
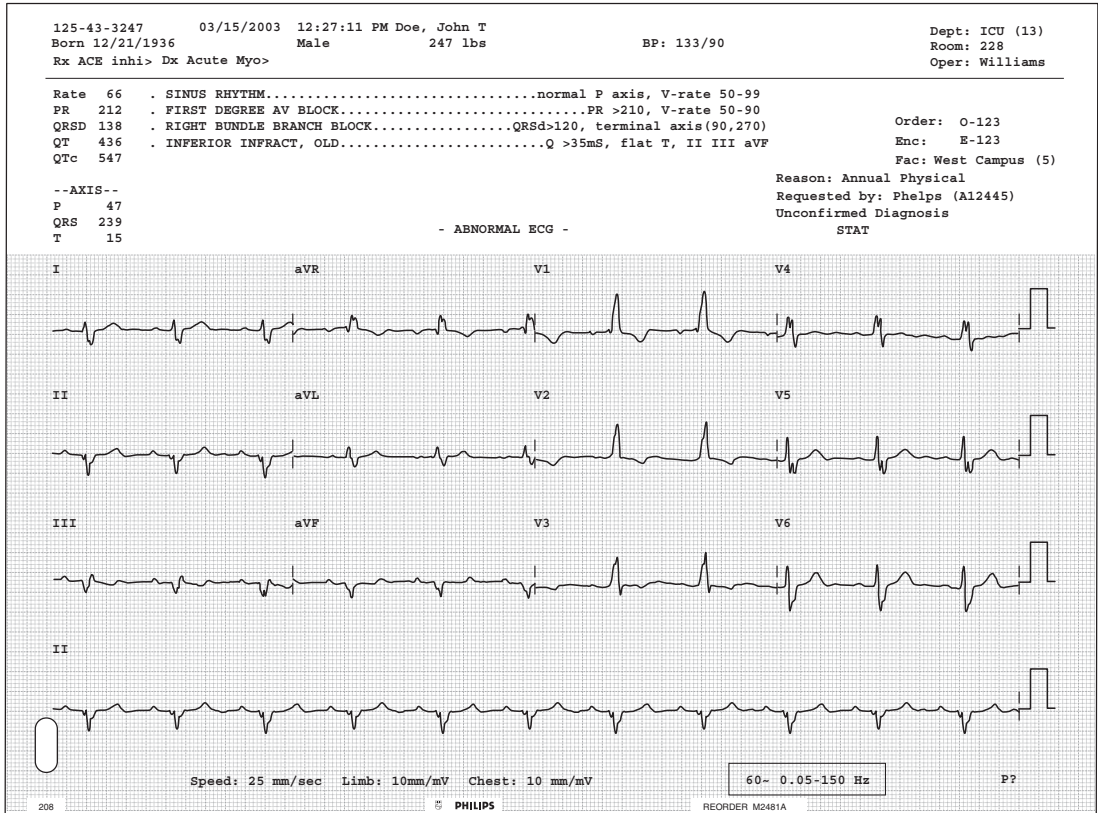- ○ Non-Paced
- ○ Paced
- ○ Paced(Magnet)

To select a tab:

1. Press and hold the Alt key on keyboard.

2. Press letter key in parenthesis. For example: to select the Rhythm tab, press the Alt key + R key.
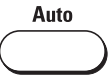
To exit screen:

1. Press the Enter key on keyboard to exit the screen and save the report settings.

2. Press the Esc key on keyboard to exit the screen without saving the settings.

Preview Screen

```
125-43-3247        03/15/2003  12:27:11 PM Doe, John T                              Dept: ICU (13)
Born 12/21/1936          Male            247 lbs          BP: 133/90                Room: 228
Rx ACE inhi> Dx Acute Myo>                                                          Oper: Williams

Rate   66   . SINUS RHYTHM................................normal P axis, V-rate 50-99
PR     212  . FIRST DEGREE AV BLOCK............................PR >210, V-rate 50-90
QRSD   138  . RIGHT BUNDLE BRANCH BLOCK.................QRSd>120, terminal axis(90,270)    Order:  O-123
QT     436  . INFERIOR INFRACT, OLD........................Q >35mS, flat T, II III aVF    Enc:    E-123
QTc    547                                                                                Fac: West Campus (5)
                                                                               Reason: Annual Physical
--AXIS--                                                                        Requested by: Phelps (A12445)
P     47                                                                        Unconfirmed Diagnosis
QRS   239                                                                       STAT
T     15                          - ABNORMAL ECG -
```

Speed: 25 mm/sec   Limb: 10mm/mV   Chest: 10 mm/mV   60~ 0.05-150 Hz   P?

208   PHILIPS   REORDER M2481A

Press the Auto button. The report is displayed.

**Auto**

To print the report:

1. Press the Enter key on keyboard.

2. Press the Esc key on keyboard to exit the screen without printing the report.

NOTE

Only the waveforms shown on the report preview are an accurate representation of what is printed on the report. Interpretation, Patient ID, or other information may appear truncated or not appear at all on the report preview, but will appear on the printed report.
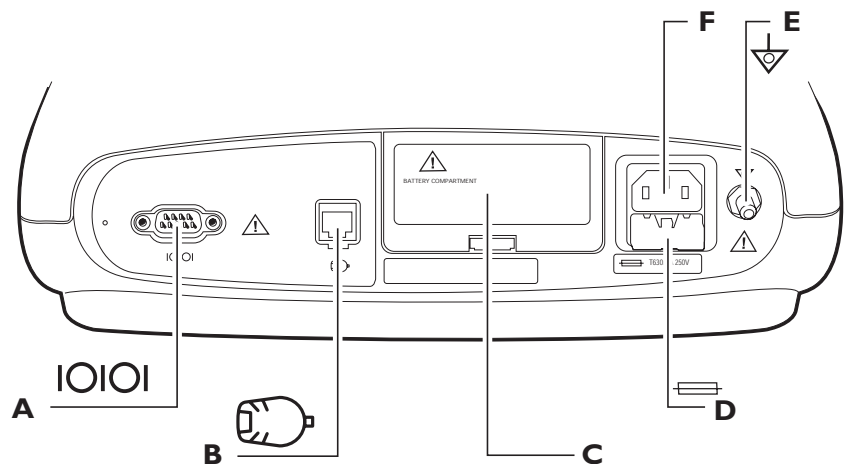
PageWriter Trim I Cardiograph Parts

A Patient Interface Module (PIM) & holder

B Report storage

C Storage shelf

D AC power cord

E Lead wires

F Wheel brake

G Printer/paper drawer
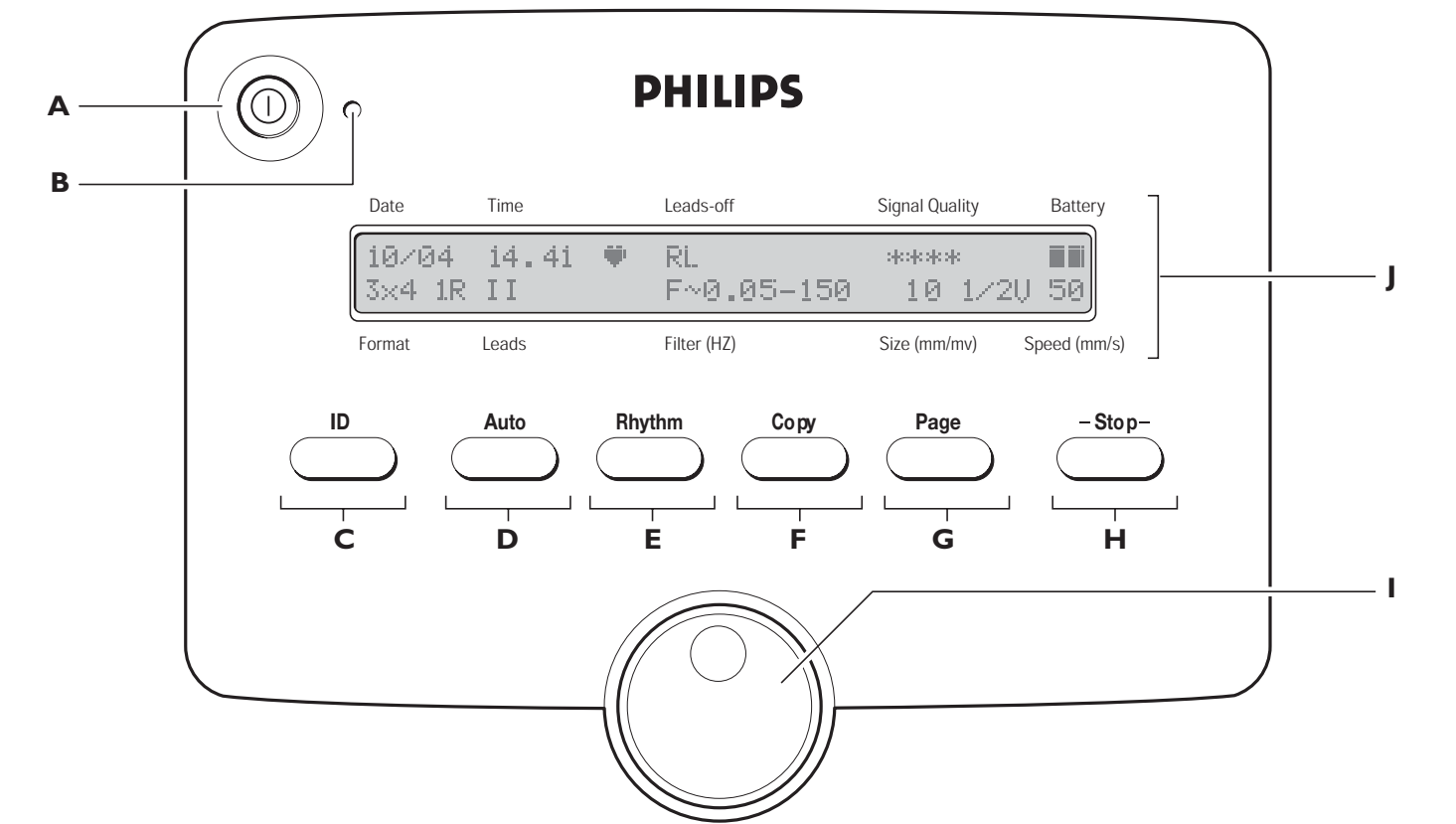
H Control panel
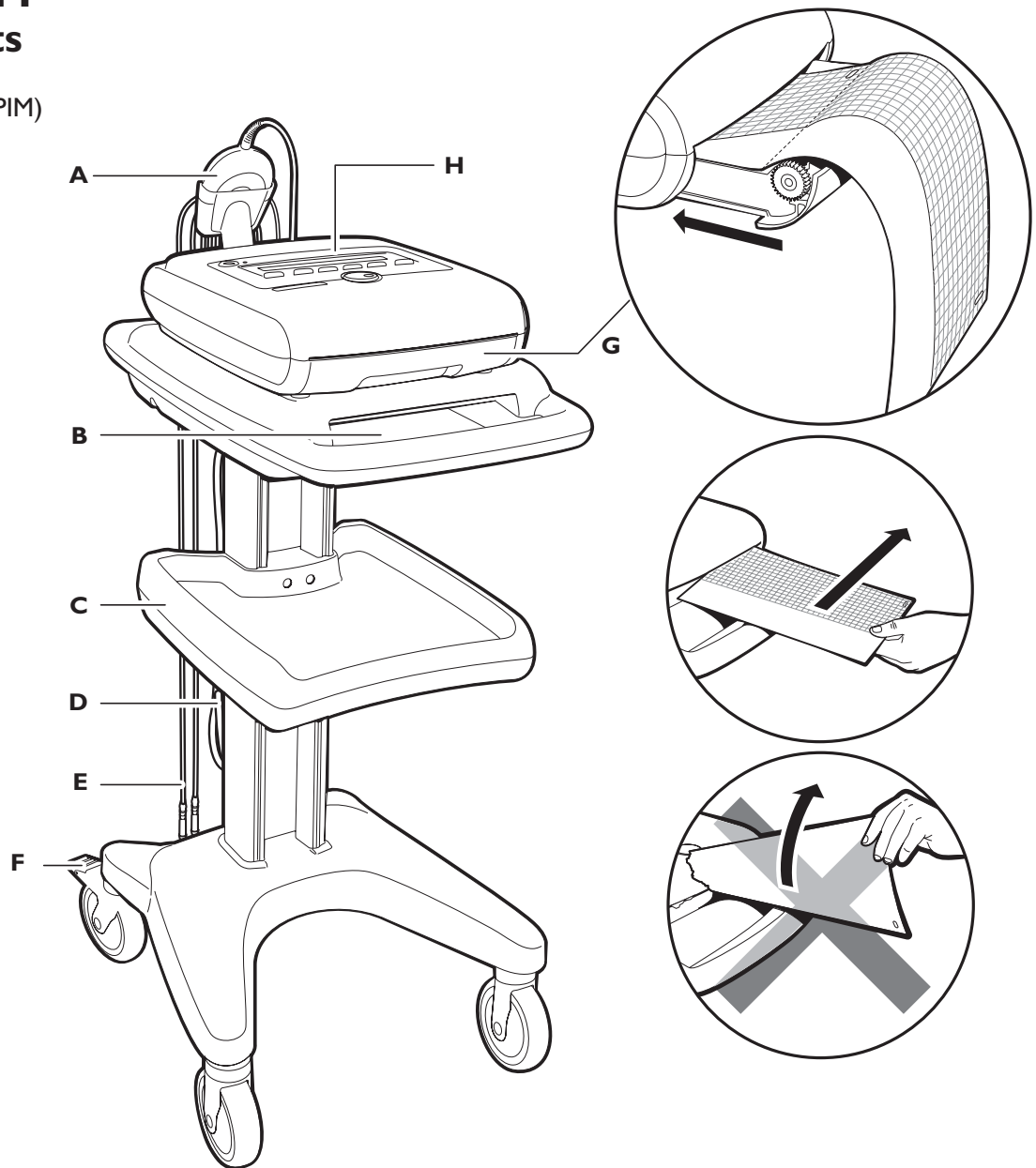
PageWriter Trim I Rear Panel

A Serial port (not supported)

B PIM connector

C Battery door

D Fuse compartment

E Equipotential post
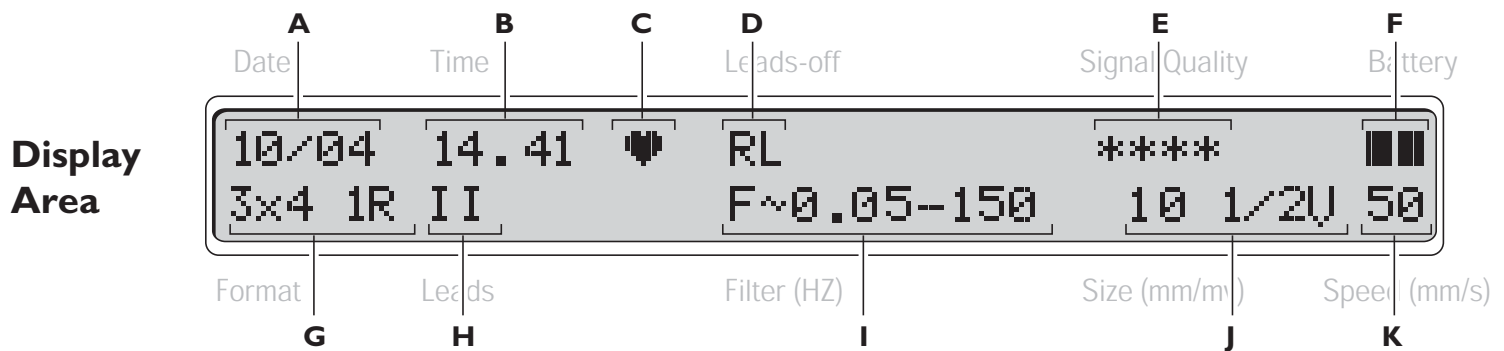
F AC power connector

PageWriter Trim I Control Panel

	Label	Description
A	AC Power button	Press button to turn on or turn off the cardiograph
B	AC Power indicator	When lit, the cardiograph is plugged into AC power
C	ID button	Press button to enter Patient ID information
D	Auto button	Press button to print out an Auto 12-lead report
E	Rhythm button	Press button to print out a continuous Rhythm report (3 or 6 leads) until the Stop button (**H**) is pressed
F	Copy button	Press button to print out a copy of the last recorded Auto 12-lead report
G	Page button	Press button to advance the printer paper to the beginning of the next page
H	Stop button	▪ Press button to stop a Rhythm report ▪ Press button to return to the previous screen
I	Trim knob	▪ Turn Trim Knob to navigate on the display ▪ Push Trim Knob to select an item
J	Display	Displays selected cardiograph settings (see chart on next page)

PageWriter Trim I Display Items

Display Area

	A	B	C	D	E	F
	Date	Time		Leads-off	Signal Quality	Battery

```
10/04   14.41    ♥   RL              ****        ▮▮▮
3x4 1R  II           F~0.05--150        10 1/2U  50
```

	G	H		I	J	K
	Format	Leads		Filter (HZ)	Size (mm/mv)	Speed (mm/s)

	Display Item	Description
A	Date	The current date
B	Time	The current time
C	Heart Beat Detector	The heart icon (♥) appears when the cardiograph detects a patient heart beat
D	Leads-off	▪ Displays the name of any loose or disconnected leads or electrodes ▪ See Leads Off Indicators chart on next page
E	Signal Quality	Indicates the overall signal quality of all leads: (No symbol) = Good connection ✳ = Slight noise ✳✳ = Moderate noise ✳✳✳✳ = All leads are disconnected
F	Battery	Indicates the power level of the battery: ▮▮▮ - Fully charged battery ▰✗ - (flashing) Very low battery ▮▮ - Battery at half charge ✗ - No battery installed or dead battery ▰ - Battery at low charge ▰▮▮▮ - Cardiograph is plugged into AC power and battery is charging
G	Format	▪ Displays the format of the printed report ▪ Available options: **12-lead - 3x4 1R**, Rhythm: **3** and **6** lead Rhythm report
H	Leads	Displays the selected Rhythm leads for the selected Report Format (see above): For **3x4,1R**: any of the 12 leads may be selected as the Rhythm lead For **3** lead Rhythm Report: **II-aVF-V2**, **I-II-III**, **aVRLF** (aVR-aVL-aVF) For **6** lead Rhythm Report: **V1-V6**, **I-aVF** (I, II, III, aVR, aVL, aVF)
I	Filter (HZ)	Displays the selected filter settings: **F** Artifact Filter (may be turned on or turned off) **~** AC Filter, available settings: **60** Hz, **50** Hz, or **0** (filter is turned off) **0.15 - 150** (Hz) High and Low Pass Filters For 3x4, 1R report: High pass: **0.15**, **0.05** and **0.5** *Note: selecting* **0.5** *turns on Baseline Wander Filter* (**W**), Low pass: **40, 100, 150** Hz For Rhythm: **0.05**, **0.15**, **40**, **100**, **150** Hz
J	Size (mm/mv)	▪ Displays the waveform size that appears on the printed report ▪ Available settings: **5, 5 1/2, 10, 10 1/2, 20, 20 1/2**
K	Speed (mm/s)	▪ Displays the waveform speed that appears on the printed report ▪ Available settings: **5, 10, 25, 50**

PageWriter Trim I Patient ID Display

Press ID button (ID)

ID Settings

	Date	Time	Leads-off	Signal Quality	Battery

51 Y   ♀   ←

Format	Leads	Filter (HZ)	Size (mm/mv)	Speed (mm/s)
A	**B**	**C**		**D**

	Display Item	Description
A	Patient Age	The age of the patient
B	Age Units	▪ The selected age unit ▪ Available settings: **Y** (Years), **M** (Months), **W** (Weeks), **D** (Days), **H** (Hours)
C	Patient Gender	▪ Displays the gender of the patient ▪ Available settings: ♀ = Female ♂ = Male
D	Return symbol	Select to return to the previous screen

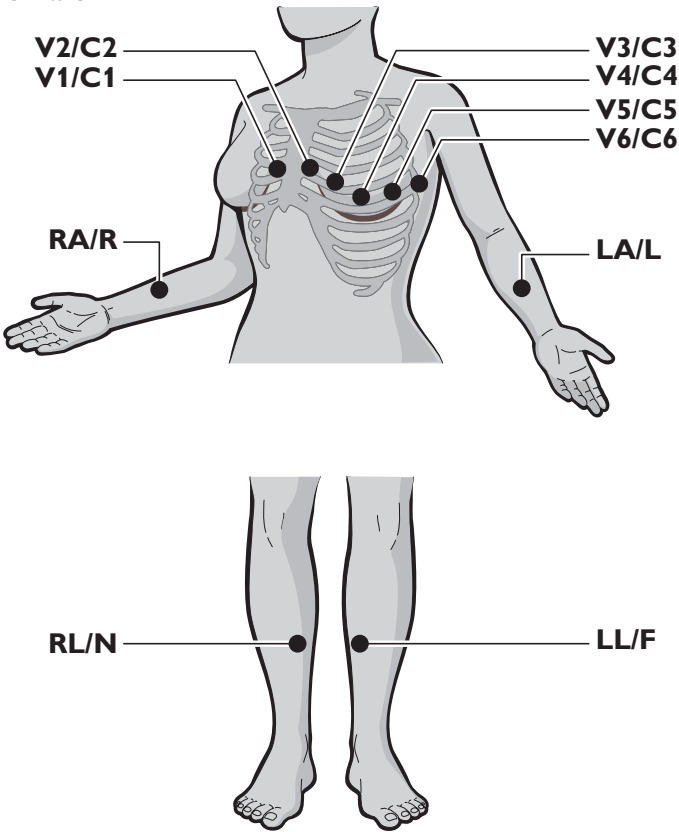# Leads Off Indicators

Leads off	Indicates
RL or N **(right leg)**	▪ The RL or N electrode or lead wire are loose or disconnected ▪ RL or N is the only electrode and lead wire connected ▪ All 12 leads are loose or disconnected
LL or F (left leg)	LL electrode or lead wire are loose or disconnected
RA or R (right arm)	RA electrode or lead wire are loose or disconnected
LA or L (left arm)	LA electrode or lead wire are loose or disconnected
V1-6 or C1-6 **(chest leads 1-6)**	▪ One or more chest electrodes or lead wires are loose or disconnected ▪ V13 or C13 indicates that electrodes or leads V1-V3 or C1-C3 are loose

Electrode Placement

Male

V2/C2
V1/C1
V3/C3
V4/C4
V5/C5
V6/C6
RA/R
LA/L

RL/N
LL/F

Female

V2/C2
V1/C1
V3/C3
V4/C4
V5/C5
V6/C6
RA/R
LA/L

RL/N
LL/F
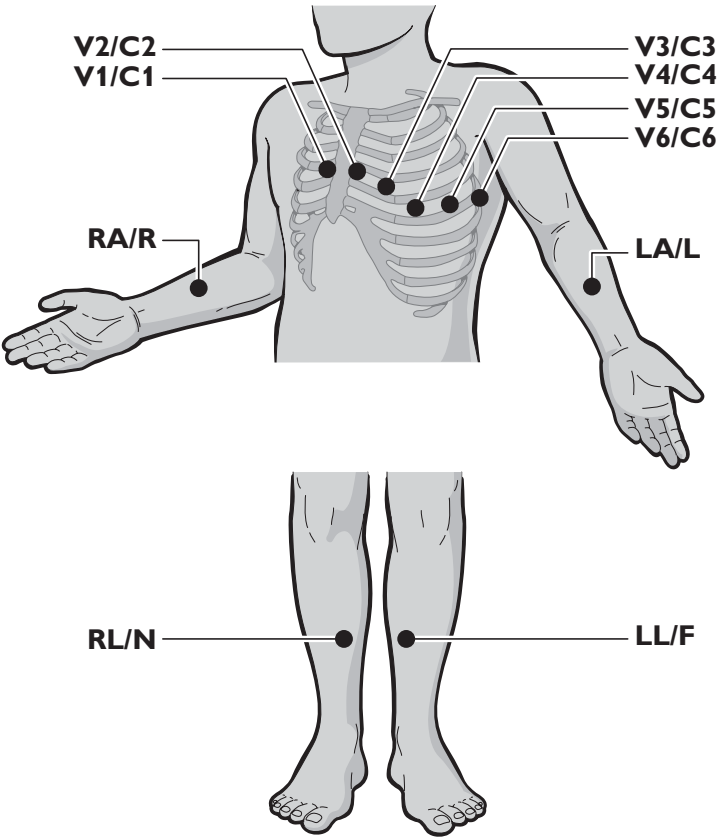
Lead Standards

AAMI

Lead	Color
V1	Red
V2	Yellow
V3	Green
V4	Blue
V5	Orange
V6	Purple
RA	White
LA	Black
RL	Green
LL	Red

IEC

Lead	Color
C1	Red
C2	Yellow
C3	Green
C4	Brown
C5	Black
C6	Purple
R	Red
L	Yellow
N	Black
F	Green